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ANALOGUE PNEUMATIC SIGNALS FOR
PROCESS CONTROL SYSTEMS

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ANALOGUE PNEUMATIC SIGNALS FOR PROCESS CONTROL SYSTEMS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 13 June 1975, after the draft finalized by the Electrical Instruments for Industrial Processes Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 In the preparation of this standard, considerable assistance has been derived from IEC Pub 382 (1971) ' Analogue pneumatic signals for process control systems ' issued by the International Electrotechnical Commission.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard applies to analogue pneumatic signals used in process control systems to transmit information between the elements of systems.

1.2 This standard does not apply to analogue pneumatic signals entirely used within an element.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Elements of Process Control Systems — Elements which ensure the transducing, transmitting and processing of measured values, control quantities, controlled variables and reference variables (electrical to pneumatic transducers, transmitters, indicators, controllers, recorders, computers, actuators, etc).

*Rules for rounding off numerical values (revised).

2.2 Analogue Pneumatic Signal — A signal in which the air pressure used for transmission varies in a continuous manner according to one or several physical quantities.

2.3 Range of the Analogue Pneumatic Signal — The range determined by stating the lower limit and the upper limit of the analogue pneumatic signal pressure.

2.4 Lower Limit — The pressure corresponding to the minimum value of the analogue pneumatic signal.

2.5 Upper Limit — The pressure corresponding to the maximum value of the analogue pneumatic signal.

3. RECOMMENDED VALUES

3.1 Ranges of Analogue Pneumatic Signals — The ranges of the analogue pneumatic signals shall be as given in Table 1.

TABLE 1 RANGES OF ANALOGUE PNEUMATIC SIGNALS

LOWER LIMIT Pa	UPPER LIMIT Pa
0.2×10^5	1.0×10^5
0.4×10^5	2.0×10^5

NOTE 1 — 0.2×10^5 to 1.0×10^5 Pa is the preferred range.

NOTE 2 — The unit for the signal pressure is pascal (Pa) ($1 \text{ Pa} = 1 \text{ N/m}^2 = 10^{-5} \text{ kgf/cm}^2 = 10^{-5} \text{ kp/cm}^2$).

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ON

ELECTRICAL INSTRUMENTS FOR INDUSTRIAL PROCESSES

IS:

2053-1974	Thermocouple pyrometers (<i>first revision</i>)
2054-1962	Reference tables for nickel/chromium-nickel/aluminium thermocouples
2055-1962	Reference tables for platinum/rhodium-platinum thermocouples
2056-1962	Reference tables for copper-constantan thermocouples
2057-1962	Reference tables for iron-constantan thermocouples
2711-1966	Direct reading pH meters
2806-1964	Methods of temperature measurement by electrical resistance thermometers
2848-1965	Platinum resistance thermometer elements
4309-1967	Methods of measurement on direct reading pH meters
5883-1970	Nickel resistance thermometer elements
6720-1972	Reference tables for platinum/30 percent rhodium-platinum/6 percent rhodium thermocouples
6804-1972	Glass electrodes for direct reading pH meters
7358-1974	Thermocouples
-1975	Analogue dc current signals for process control systems
-1975	Analogue pneumatic signals for process control systems

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